



PTO/SB/08B (10-01)

Approved for use through 10/31/2002. OMB 0851-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 14498/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet

| Complete if Known | | | | |
|------------------------|------------------|--|--|--|
| Application Number | 09/888,291 | | | |
| Filing Date | June 21, 2001 | | | |
| First Named Inventor | Gerald P. Roston | | | |
| Art Unit | 2837 | | | |
| Examiner Name | Bentsu Ro | | | |
| Attorney Docket Number | IMM070A.RE | | | |

| · | | OTHER PRIOR ART NON PATENT LITERATURE DOCUMENTS |
|---------------------|--------------|---|
| Examiner Initials * | Cite No.1 | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. |
| | | BAIGRIE, "Electric Control Loading - A Low Cost, High Performance Alternative," Proceedings, pp. 247-254, November 6-8, 1990. |
| | | IWATA, "Pen-based Haptic Virtual Environment," 0-7803-1363-1/93 IEEE, pp 287-292, 1993. |
| | | RUSSO, "The Design and Implementation of a Three Degree of Freedom Force Output Joystick," MIT Libraries Archives 08/14/1990, pp. 1-131, May 1990. |
| | | BROOKS et al., "Hand Controllers for Teleoperation - A State-of-the-Art Technology Survey and Evaluation, JPL Publication 85-11; NASA-CR-175890; N85-28559, pp. 1-84, 03/1/1985. |
| | 1 | JONES et al., "A perceptual analysis of stiffness," ISSN 0014-4819 Springer International (Springer-Verlag); 7: Experimental Brain Research, Vol. 79, No. 1, pp. 150-156, 1990. |
| | / | BURDEA et al., "Distributed Virtual Force Feedback, Lecture Notes for Workshop on Force Display in Virtual Environments and its Application to Robotic Teleoperation," 1993 IEEE International Conference on Robotics and Automation, pp. 25-44, 05/02/1993. |
| Rol | | SNOW et al., * Model-X Force-Reflecting-Hand-Controller,* NT Control No. MPO-17851; JPL Case No. 5348, pp. 1-4, 06/15/1989. |
| | | OUH-YOUNG, * Force Display in Molecular Docking,* Order No. 9034744, p. 1-369, 1990. |
| | | TADROS, * Control System Design for a Three Degree of Freedom Virtual Environment Simulator Using Motor/Brake Pair Actuators, MIT Archive © Massachusetts Institute of Technology, pp. 1-88, February 1990. |
| | | CALDWELL et al., * Enhanced Tactile Feedback (Tele-Taction) Using a Multi-Functional Sensory System,* 1050-4729/93, pp. 955-960, 1993. |
| | | ADELSTEIN, * Design and Implementation of a Force Reflecting Manipulandum for Manual Control research,* DSC-Vol. 42, Advances in Robotics, Edited by H. Kazerooni, pp. 1-12, 1992. |
| | | GOTOW et al., " Controlled Impedance Test Apparatus for Studying Human Interpretation of Kinesthetic Feedback," WA11-11:00, pp. 332-337, WO DAZ |
| | | STANLEY et al., * Computer Simulation of Interacting Dynamic Mechanical Systems Using Distributed Memory Parallel Processors, * DSC-Vol. 42, Advances in Robotics, pp. 55-61, ASME 1992. |
| | | RUSSO, * Controlling Dissipative Magnetic Particle Brakes in Force Reflective Devices,* DSC-Vol. 42, Advances in Robotics, pp. 63-70, ASME 1992. |

| Examiner | Rentin Po | Date | 12/11/02 | |
|-----------|-----------|------------|----------|--|
| Signature | Denien Ko | Considered | 10/11/02 | |

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

¹ Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

O TO TO THE OWNER OF THE OWNER O

PTO/SB/

Approved for use through 10/31/2002. OMB 0651-0031*
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 2 of 5

| | . Complete if Known | | | | |
|------------------------|---------------------|--|--|--|--|
| Application Number | 09/888,291 | | | | |
| Filing Date | June 21, 2001 | | | | |
| First Named Inventor | Gerald P. Roston | | | | |
| Art Unit | 2837 | | | | |
| Examiner Name | Bentsu Ro | | | | |
| Attorney Docket Number | IMM070A.RE | | | | |

| U.S. PATENT DOCUMENTS | | | | | | |
|-----------------------|--------------|---|--------------------------------|--|---|--|
| Examiner | Cite No.1 | Document Number Number Kind Code ² (if known) | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | |
| 7 | | 6,422,941 | 7/23/2002 | Thomer et al. | | |
| | | 4,464,117 | 8/7/1984 | Forest | <u>-</u> | |
| | | 5,022,384 | 6/11/1991 | Freels | | |
| | | 5,575,761 | 11/19/1996 | Hajianpour | | |
| | | 6,160,489 | 12/12/2000 | Perry et al. | | |
| 0 < 1 | | 5,175,459 | 12/29/1992 | Danial et al. | | |
| 1/0 | | 5,283,970 | 2/8/1994 | Aigner | | |
| | | 4,262,549 | 4/21/1981 | Schwellenbach | | |
| | | 4,333,070 | 6/1/1982 | Barnes | 7 | |
| | | 5,165,897 | 11/24/1992 | Johnson | *: | |
| | | 4,484,191 | 11/20/1984 | Vavra | · | |
| | | 5,436,622 | 7/25/1995 | Gutman et al. | , | |
| | | , | 1 | | ` • | |

| | | Forei | gn Patent Document | | Name of Patentee or | Pages, Columns, Lines, |
|-----------------------|--------------|---------------------------|--|--------------------------------|------------------------------|---|
| Examiner Initials* | Cite No.1 | Country Code ³ | Number ⁴ Kind Code ¹ (# Imown) | Publication Date MM-DD-YYYY | Applicant of Cited Document | Where Relevant Passages or Relevant Figures Appear_ |
| Ro | BW | EP | EP0349086 | 1/3/1990 | Visser | |

| | Date Considered \2/(1/0 2 | |
|--|---------------------------|--|
|--|---------------------------|--|

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231

¹ Applicant's unique citation designation number (optional). ² Kind Codes of U.S. Patent Documents at www.usplo.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

PTO/SB/08A (10-01)
Approved for use through 10/31/2002, OMB 0851-0031*
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

nder the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid QMB control number.

for form 1449A/PTO SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Complete if Known **Application Number** 09/888.291 Filing Date June 21, 2001 First Named Inventor Roston, Gerald, et al. **Group Art Unit** 2837 **Examiner Name** Ro, Bentsu

(use as many sheets as necessary)

Attorney Docket Number IMM070A.RE

| | U.S. PATENT DOCUMENTS | | | | | | |
|----------|-----------------------|--|------------------|--|---|--|--|
| | Cite | Document Number | Publication Date | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where | | |
| Examiner | No.1 | Number Kind Code ² (If known) | MM-DD-YYYY | Applicant of Cited Document | Relevant Passages or Relevant Figures Appear | | |
| RO | 1 | 6,111,577 | 8/29/2000 | Ziles, et al. | | | |
| RO | 2 | 6,219,034 | 7/23/2002 | Elbing, et al. | | | |

| Commission | C*** | Foreign Patent Document | | Dublication Date | Name of Patentee or | Pages, Columns, Lines, | |
|-----------------------|------|---------------------------|---------------------|--|--------------------------------|--------------------------------|--|
| Examiner Initiats* | No.1 | Country Code ³ | Number ⁴ | Kind Code ^s (<i>Il known</i>) | Publication Date MM-DD-YYYY | Applicant of Cited Document | Where Relevant Passages or Relevant Figures Appear |
| 20 | 3 | JP | 01-003664 | | 7/19/1990 | Taito Corporation | |
| Ro | 4 | JP | 02-109714 | | 1/13/1992 | Epoch Co., et al. | |
| Ro | 5_ | JP | 04-007371 | | 8/3/1993 | Taito Corporation | |
| 180 | 6 | JP | 05-193862 | | 1/27/1995 | Sega Corporation | |

| | OTHER PRIOR ART NON PATENT LITERATURE DOCUMENTS | | | | | | |
|------------------------|---|---|--|--|--|--|--|
| Examiner Initials * | Cite No.1 | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | | | | | |
| Ro | 7 | "Taking a Joystick Ride", Computer Currents, Tim Scannell, Nov. 1994, Boston Edition, Vol. 9 No. 11 | | | | | |
| Ro | 8 | *Coaxdal Control Shaker Part No. C-25502,* Safe Flight Instrument Corporation, 26 pages, July 1, 1967; Revised January 28, 2002. | | | | | |

| | | · | |
|-----------------------|----------|--------------------|----------------|
| Examiner Signature | Benkn Ro | Date Considered | 3/18/2007 3 17 |

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231

Applicant's unique citation designation number (optional). ² Kinds of U.S. Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.